

# Exhibit R

## Expert Report of Renée DiResta,

Prepared for Defendant Washington State University in  
Eastern District of Washington Case No. 2:22-cv-00319-TOR

*Nicholas Rolovich*, plaintiff

v.

*Washington State University*, defendant.

Dated: August 9, 2024

Signed:   
Renée DiResta

## BACKGROUND AND QUALIFICATIONS

1. From June 2019 until June 2024 I was the Technical Research Manager of the Stanford Internet Observatory, a research center within Stanford University with a track that focused on understanding how narratives spread and go viral on social media. I have a decade of experience studying the narratives and online dynamics of the anti-vaccine movement specifically, including its intersection with other conspiratorial communities.

2. From 2020-2023, I served on the Lancet Commission on Vaccine Refusal, Acceptance, and Demand in the USA, which was formed to address the persistent and important threat to public health in the USA posed by suboptimal uptake of some vaccines. I have prepared background reports and research primers on vaccination narratives and social media that were used to inform the Sabin Institute Vaccine Science and Policy Group, the Lancet and Financial Times joint commission on global health futures, Science for Global Policy, and many other think tanks and policy projects. I have published multiple academic papers on the dynamics of vaccine hesitancy and anti-vaccine narratives on social media in journals including *The Lancet* and *Annals of Internal Medicine*. I have a forthcoming contributed book chapter on vaccine narratives in an American Public Health Association (APHA) volume on COVID-19.

3. During the COVID-19 vaccine rollout, I was one of the leaders of an inter-institutional partnership called the Virality Project that published weekly briefings to enable public health officials and frontline physicians to understand and respond to rumors, misinformation, and emergent vaccine hesitancy narratives related to the COVID-19 vaccines. In this capacity I participated in briefings for the Office of the Surgeon General on the dynamics of viral COVID-19 vaccine rumors and misinformation.

4. A copy of my CV, which contains additional information regarding my qualifications and a list of publications authored or co-authored, is attached as **Attachment A**.

5. I am being compensated \$250 per hour for my expert work on this matter. I have not testified as an expert at trial or by deposition in any case in the past four years.

### FACTS OR DATA CONSIDERED

6. In addition to the research, studies, and news reports cited in this report and knowledge I have gained through my extensive work researching and writing about vaccine hesitancy, anti-vaccine conspiracy theories, and the QAnon movement, I considered the following materials in forming the opinions set forth in this report:

- Approximately 460 documents that I understand were produced by Mr. Rolovich in this litigation and reference the term “vaccine”, “vacc\*”, and/or “vax\*”, in addition to documents referencing the term “abort\*”, or “fetal”, or “cells”.
- The following timeline of relevant dates, which was prepared by counsel:

<u>1/14/2020:</u>	Rolovich hired as head coach of WSU’s football team.
<u>4/21/2021:</u>	Rolovich meets with WSU professor, Dr. Guy Palmer, regarding COVID-19 vaccines and side effects.
<u>4/28/2021:</u>	WSU announces vaccine requirement.
<u>5/24/2021:</u>	Rolovich meets with WSU’s Athletic Director, Pat Chun, to discuss vaccine. According to Rolovich, Mr. Chun “claimed that he was worried about Mr. Rolovich’s mental health and accused him of having extreme views regarding many issues.”
<u>7/21/2021:</u>	Rolovich tweets that he will not receive COVID-19 vaccine for “reasons which will remain private.”
<u>7/27/2021:</u>	Rolovich virtually attends Pac-12 media day, as participants were required to be vaccinated in order to attend in-person.
<u>8/9/2021:</u>	Washington Governor Jay Inslee issues Proclamation 12-14, requiring state workers to be vaccinated against COVID-19.
<u>8/19/2021:</u>	Rolovich first informs Athletics Department that he intends to seek religious exemption.
<u>10/04/2021:</u>	Rolovich submits application for religious exemption.
<u>10/18/2021:</u>	Rolovich notified that his request for exemption and accommodation was not approved.

<u>11/12/2021:</u>	Notice of termination issued to Rolovich.
<u>11/26/2021:</u>	Rolovich appeals the termination decision.
<u>12/6/2021:</u>	Rolovich's appeal is denied.
<u>11/14/2022:</u>	Rolovich files original complaint in this litigation.

- Second Amended Complaint of Nicholas Rolovich

## EARLY EXAMPLES OF ANTI-VACCINE CONSPIRACY THEORIES

7. For as long as there have been vaccines, there have been anti-vaccine narratives. Some of the earliest anti-vaccine narratives were religious. For example, in the early 1800s, Dr. Edward Jenner created a mechanism for inoculating against smallpox using cowpox.<sup>1</sup> At the time, as disease was often believed to be a punishment from God, some religious leaders assailed smallpox variolation as an effort to avoid a deserved fate.<sup>2</sup> Others later expressed concern that variolation introduced material from a cow into a human body – a violation of bodily purity or sanctity.<sup>3</sup>

8. In 1853, the United Kingdom passed the Vaccination Act of 1853, making smallpox vaccination compulsory for children; by the 1860s, two-thirds of babies were vaccinated and smallpox death rates declined significantly.<sup>4</sup> Nonetheless, religious adherents argued that it was “unChristian,” while more secular complaints framed it as political tyranny against the working class.<sup>5</sup> Anti-vaccine arguments based on concerns about safety additionally became prominent, and formal “anti-vaccination leagues” were established by those who wished to resist vaccines, and to evangelize against

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<sup>1</sup> Stefan Riedel, “Edward Jenner and the History of Smallpox and Vaccination,” *Baylor University Medical Center Proceedings*, 18(1), 21–25 (2005), <https://doi.org/10.1080/08998280.2005.11928028>.

<sup>2</sup> Per-Olof Hasselgren, “The Smallpox Epidemics in America in the 1700s and the Role of Surgeons: Lessons to Be Learned During the Global Outbreak of COVID-19,” *World Journal of Surgery* 44, no. 9 (2020): 2838-2839, <https://link.springer.com/article/10.1007%2Fs00268-020-05670-4>.

<sup>3</sup> College of Physicians of Philadelphia, History of Vaccines, “History of Anti-Vaccination Movements,” <https://www.historyofvaccines.org/content/articles/history-anti-vaccination-movements>.

<sup>4</sup> The Health Foundation, “United Kingdom Vaccination Act 1853,” <https://navigator.health.org.uk/theme/united-kingdom-vaccination-act-1853>.

<sup>5</sup> Nadja Durbach, “‘They Might as Well Brand Us’: Working-Class Resistance to Compulsory Vaccination in Victorian England,” *Social History of Medicine* 13, no. 1 (2000): 45–63, <https://doi.org/10.1093/shm/13.1.45>.

them. According to letters that were sent to the editors of medical journals around the time the Compulsory Vaccination Act was passed, the anti-vaccination leagues disputed the safety and efficacy of vaccines; created conspiratorial allegations about the mechanisms as well as developers of vaccines; alleged that other diseases, including sexually transmitted diseases, were side effects of being vaccinated; and challenged the validity of mandates requiring immunization during epidemics.<sup>6</sup>

### ANTI-VACCINE CONSPIRACY THEORIES IN THE 21st CENTURY

9. The prevalence of themes and narratives skeptical of, or outright hostile to, vaccines waxes and wanes. However, highly similar narratives and themes persist over time, often regardless of the specific diseases they mitigate, because these narratives voice real concern and fears.

10. Epidemiologists and public health experts who study vaccine hesitancy have extensively categorized the prevalent vaccine rejection and hesitancy themes of the last 20 years, and how they manifest on social media, drawing on data from anti-vaccine websites and online communities.<sup>7</sup> I have studied that literature closely, including the quantitative assessments of prevalent vaccine rejection and hesitancy themes, and have built upon it through my own work researching and writing about vaccine hesitancy and anti-vaccine conspiracy theories. Summarizing across that

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<sup>6</sup> Stanley Williamson, “Anti-vaccination Leagues,” *Archives of Disease in Childhood* 59, no. 12 (1984): 1195–96, <https://doi.org/10.1136/ad.59.12.1195>.

<sup>7</sup> Laeth Nasir, “Reconnoitering the antivaccination web sites: news from the front,” *J Fam Pract* 49(8):731-3 (August 2000), <https://pubmed.ncbi.nlm.nih.gov/10947140/>; Robert M. Wolfe, Lisa K. Sharp, and Martin S. Lipsky, “Content and Design Attributes of Antivaccination Web Sites,” *JAMA* 287, no. 24 (June 26, 2002): 3245, <https://doi.org/10.1001/jama.287.24.3245>; P. Davies, S. Chapman, and J. Leask, “Antivaccination Activists on the World Wide Web,” *Archives of Disease in Childhood* 87, no. 1 (2002): 22–25, <https://doi.org/10.1136/ad.87.1.22>; Anna Kata, “A Postmodern Pandora’s Box: Anti-vaccination Misinformation on the Internet,” *Vaccine* 28, no. 7 (February 17, 2010): 1709-16, <https://doi.org/10.1016/j.vaccine.2009.12.022>; Tara C. Smith, “Vaccine Rejection and Hesitancy: A Review and Call to Action,” *Open Forum Infectious Diseases* 4, no. 3 (2017), <https://doi.org/10.1093/ofid/ofx146>; Amelia Jamison, David A. Broniatowski, Michael C. Smith, Kajal S. Parikh, Adeena Malik, Mark Dredze, and Sandra C. Quinn, “Adapting and Extending a Typology to Identify Vaccine Misinformation on Twitter,” *American Journal of Public Health* 110, no. S3 (2020): S331–39, <https://doi.org/10.2105/ajph.2020.305940>; The Virality Project, “Memes, Magnets, and Microchips: Narrative dynamics around COVID-19 vaccines,” Feb. 2022, Stanford Digital Repository, <https://doi.org/10.25740/mx395xj8490>; Angelo Fasce, Philipp Schmid, Dawn L. Holford, Luke Bates, Iryna Gurevch, and Stephan Lewandowsky, “A Taxonomy of Anti-vaccination Arguments From a Systematic Literature Review and Text Modelling,” *Nature Human Behaviour* 7, no. 9 (July 17, 2023): 1462–80, <https://doi.org/10.1038/s41562-023-01644-3>.

research, the most common, longstanding, and prevalent themes in vaccine rejection and hesitancy include:

- **Safety**: narratives alleging that vaccines are unsafe (e.g., that they cause sudden infant death syndrome, autism, or seizures); are under-tested or untested, either individually or in aggregate; contain toxic ingredients; cause other ailments (such as cancer); cause harm; weaken the immune system.
- **Efficacy**: narratives related to the idea that vaccines do not work, that they are less effective than treatments or alternative medicines (including homeopathy), or that they offer no more protection than doing nothing at all.
- **Religiosity**: narratives argue that vaccines contain materials or are party to moral acts that are objectionable on religious grounds (such as cell culture systems originally obtained via abortion, or porcine ingredients); that the human body is perfect as God made it (rendering vaccines unnecessary or against God's laws); that preventing illness or death interferes with God's will.
- **Liberty**: narratives argue that no one, including the government or an employer, should be able to tell people what to put in their bodies, that parents should be the sole decision maker for children (vis a vis school requirements), and that individuals have the right to unqualified "health freedom" or "medical choice."
- **Distrust of industry or scientific processes**: narratives allege that vaccines are produced by profit-motivated pharmaceutical companies, often leveraging authentic instances of past abuses in which companies *have* concealed harm in pursuit of profit; that medical journals are "bought"; that scientists or experts conceal harms.
- **Conspiracy**: narratives claim to reveal malicious intent underlying vaccine policies or products, reflecting broad distrust in authority and expertise; narratives impute malign motives or nefarious actions to individuals, companies, or governments associated with vaccination.

11. Regarding the safety and efficacy themes, those themes were particularly prevalent during the COVID-19 pandemic, as the public followed the story of COVID-19 vaccine development in real time. Many other vaccines, particularly those for childhood illnesses, have decades of safety and efficacy data available. Therefore, hesitancy due to safety and efficacy reasons in the COVID-19 context was at least partially a function of recency; fear of adverse events featured prominently in

surveys, and participants expressed a desire to “wait and see”.<sup>8</sup> However, safety themes have long been prevalent on most anti-vaccine websites, even in discussions of well-established and safe vaccines.

Some argue the existence of “hot lots” (specific dangerous batches), express concern about purportedly dangerous ingredients, or extrapolate from stories of individual reported bad experiences to reach sweeping conclusions; these arguments often do not dissipate even after thorough scientific investigations and research has been conducted.<sup>9</sup>

12. Regarding the conspiracy theme of vaccine rejection and hesitancy, conspiracy theories related to vaccines often draw on material found in other themes, but then layer on an element of deliberate malice or concealed action on the part of leaders or experts.<sup>10</sup> For example, safety concerns about vaccine risks are made conspiratorial through allegations that the government is *actively hiding evidence* of vaccine dangers.<sup>11</sup> Toxicity claims, which often focus on vaccine ingredients, may allege that vaccines contain secret microchips, or are designed to purposefully execute a “depopulation agenda”.<sup>12</sup> Other longstanding vaccine conspiracy theories allege that vaccine advocates are paid off by “big pharma,” or that doctors who criticize vaccines are silenced or murdered.<sup>13</sup> High-profile figures like George Soros and Bill Gates frequently appear in these narratives; the specifics of their purported

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<sup>8</sup> Ashley Kirzinger, Audrey Kearney, Liz Hamel, and Mollyann Brodie, “KFF/The Washington Post Frontline Health Care Workers Survey - Vaccine Intentions,” Apr. 6, 2021, <https://www.kff.org/report-section/kff-washington-post-frontline-health-care-workers-survey-vaccine-intentions/>.

<sup>9</sup> Eve Dubé, Caroline Laberge, Maryse Guay, Paul Bramadat, Réal Roy, and Julie A. Bettinger, “Vaccine Hesitancy,” *Human Vaccines & Immunotherapeutics* 9, no. 8 (Aug. 8, 2013): 1763–73, <https://doi.org/10.4161/hv.24657>.

<sup>10</sup> This is common to conspiracy theorizing in general. Conspiracy theories take real events, or claims with a grain of truth, and attempt to explain them by asserting a connection to powerful or sinister figures who are secretly colluding in service to a malevolent goal. See, for example, Roland Imhoff et al., “Conspiracy Mentality and Political Orientation Across 26 Countries,” *Nature Human Behaviour* 6, no. 3 (Jan. 17, 2022): 392–403, <https://doi.org/10.1038/s41562-021-01258-7>.

<sup>11</sup> Anna Kata, “A Postmodern Pandora’s Box: Anti-vaccination Misinformation on the Internet,” *Vaccine* 28, no. 7 (Feb. 17, 2010): 1709–16, <https://doi.org/10.1016/j.vaccine.2009.12.022>.

<sup>12</sup> Jack Goodman and Flora Carmichael, “Coronavirus: Bill Gates ‘Microchip’ Conspiracy Theory and Other Vaccine Claims Fact-checked,” *BBC*, May 29, 2020, <https://www.bbc.com/news/52847648>.

<sup>13</sup> Flora Teoh, “Conspiracy Theory About the Deaths of Alternative Medicine Practitioners Ignores Evidence, Misrepresents Certain Doctors - Health Feedback,” *Health Feedback*, Aug. 23, 2023, <https://healthfeedback.org/claimreview/conspiracy-theory-deaths-alternative-medicine-practitioners-ignores-evidence-misrepresents-certain-doctors/>.



malign activity shifts to account for the specific details of a given outbreak.<sup>14</sup> Conspiratorial predispositions and belief in COVID-19 conspiracy theories were found to be predictors of vaccine hesitancy during the COVID-19 pandemic.<sup>15</sup> Conspiracy content remains one of the most prevalent vaccine conversation themes on social media.<sup>16</sup>

13. Regarding the religiosity theme, although religious concerns about vaccination do exist, none of the world's major religions are opposed to vaccines.<sup>17</sup> The Catholic Church, for example, has extensively debated the ethics of using vaccines derived from human cell lines or fetal material obtained from an abortion, suggesting that vaccines without them be used where possible, but it remains pro-vaccine and Catholic religious leaders have consistently encouraged vaccination, including during the COVID-19 pandemic.<sup>18</sup> Other concerns related to vaccines interrupting "divine will" (fatalism) or impurity (concerns that being vaccinated will render the recipient impure) appear in some Christian Science, Jehovah's Witnesses, anthroposophy, and faith-healing practices but are not widely

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<sup>14</sup> Alex Mahadevan, "Bill Gates and George Soros Are Targets of Another COVID-19 Conspiracy Theory," *Poynter*, June 1, 2020, <https://www.poynter.org/fact-checking/2020/bill-gates-and-george-soros-the-target-of-another-covid-19-conspiracy-theory/>.

<sup>15</sup> Christina E. Farhart, Ella Douglas-Durham, Krissy Lunz Trujillo, and Joseph A. Vitriol, "Vax Attacks: How Conspiracy Theory Belief Undermines Vaccine Support," *Progress in Molecular Biology and Translational Science*, Volume 188, Issue 1, (2022): 135–69, <https://doi.org/10.1016/bs.pmbts.2021.11.001>; Joseph A. Vitriol and Jesseca K. Marsh, "A Pandemic of Misbelief: How Beliefs Promote or Undermine COVID-19 Mitigation," *Frontiers in Political Science* 3 (June 17, 2021), <https://doi.org/10.3389/fpos.2021.648082>; Daniel Allington, Siobhan McAndrew, Vivienne Moxham-Hall, and Bobby Duffy, "Coronavirus Conspiracy Suspicions, General Vaccine Attitudes, Trust and Coronavirus Information Source as Predictors of Vaccine Hesitancy among UK Residents during the COVID-19 Pandemic," *Psychological Medicine* 53, no. 1 (2023): 236–47. <https://doi.org/10.1017/S0033291721001434>.

<sup>16</sup> Amelia Jamison, David A. Broniatowski, Michael C. Smith, Kajal S. Parikh, Adeena Malik, Mark Dredze, and Sandra C. Quinn, "Adapting and Extending a Typology to Identify Vaccine Misinformation on Twitter," *American Journal of Public Health* 110, no. S3 (Oct. 2020): S331–39, <https://doi.org/10.2105/ajph.2020.305940>.

<sup>17</sup> John D. Grabenstein, "What the World's Religions Teach, Applied to Vaccines and Immune Globulins," *Vaccine* 31, no. 16 (April 12, 2013): 2011–23, <https://doi.org/10.1016/j.vaccine.2013.02.026>.

<sup>18</sup> "Pontifical Academy for Life Statement: Moral Reflections on Vaccines Prepared From Cells Derived From Aborted Human Foetuses," *The Linacre Quarterly* 86, no. 2–3 (May 2019): 182–87, <https://doi.org/10.1177/0024363919855896>; United States Conference of Catholic Bishops, "Pope Francis and Bishops From the Americas Promote COVID-19 Vaccine," 2021, <https://www.usccb.org/resources/pope-francis-and-bishops-americas-promote-covid-19-vaccine>.

popular.<sup>19</sup> In the case of COVID-19 vaccines, neither Christian Scientists nor Jehovah's Witnesses organizationally opposed COVID-19 vaccination.<sup>20</sup>

14. Notably, within the United States, religion intersects with vaccination policy through exemption options to vaccination requirements in some states. Generally speaking, there are three potential types of exemptions from compulsory vaccination, including for schoolchildren: (1) medical, which are given by physicians in cases in which there is a contraindication that makes being vaccinated dangerous or risky; (2) personal belief, or "philosophical objections"; and (3) religious exemptions, which may require that the individual seeking the exemption provide evidence of a sincerely-held religious belief contrary to vaccination.<sup>21</sup> In an effort to demonstrate sincere beliefs, petitioners sometimes submit a supportive letter from clergy.<sup>22</sup>

15. Numerous peer-reviewed academic studies and papers document and discuss dynamics by which religious objections to vaccines may be leveraged to mask underlying concerns about vaccine safety, trust, and personal choice in an effort to avoid vaccine mandates.<sup>23</sup> For example, in one study of "frameworks through which vaccine decisions were made," authors reported that Orthodox Jewish parents indicated that they were more worried about vaccine safety and other secular

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<sup>19</sup> Hanne Amanda Trangerud, "What Is the Problem With Vaccines? a Typology of Religious Vaccine Skepticism," *Vaccine X* 14 (Aug. 2023): 100349, <https://doi.org/10.1016/j.jvax.2023.100349>; Eric Wombwell, Mary T. Fangman, Alannah K. Koder, and David L. Spero, "Religious Barriers to Measles Vaccination," *Journal of Community Health* 40, no. 3 (Oct. 16, 2014): 597–604, <https://doi.org/10.1007/s10900-014-9956-1>.

<sup>20</sup> Jehovah's Witnesses, "Are Jehovah's Witnesses Opposed to Vaccination? Or Do They Get Vaccines?," <https://www.jw.org/en/jehovahs-witnesses/faq/jw-vaccines-immunization/>; Maggie Phillips, "Christian Scientists Consider the COVID-19 Vaccine," *Tablet*, Nov. 19, 2021, <https://www.tabletmag.com/sections/community/articles/christian-scientists-consider-covid-19-vaccinations>.

<sup>21</sup> National Conference of State Legislatures, "States with Religious and Philosophical Exemptions from School Immunization Requirements," Aug. 5, 2024, <https://www.ncsl.org/health/states-with-religious-and-philosophical-exemptions-from-school-immunization-requirements>.

<sup>22</sup> Requirements for proving sincerity vary by locale; for examples of such letters in New York City submitted in relation to the COVID-19 vaccination requirements, see Reuven Blau, "COVID Vaccine Religious Exemption Letters Show Battle of Faith Vs. Science," *THE CITY - NYC News*, Dec. 1, 2021, <https://www.thecity.nyc/2021/12/01/covid-vaccine-religious-exemption-letters-faith-vs-science/>.

<sup>23</sup> Gordana Pelčić, Silvana Karačić, Galina L. Mikirtichan, Olga I. Kubar, Frank J. Leavitt, Michael Cheng-tek Tai, Naoki Morishita, Suzana Vuletić, and Luka Tomašević, "Religious Exception for Vaccination or Religious Excuses for Avoiding Vaccination," *Croatian Medical Journal* 57, no. 5 (Oct. 2016): 516–21, <https://doi.org/10.3325/cmj.2016.57.516>.

vaccine hesitancy concerns, though “religious frameworks were mobilized” to justify exemption seeking; concerns about safety were at the root of purportedly religious requests. Indeed, some participants noted that if a Rabbi were to tell them “you have to vaccinate,” they would not follow the religious guidance – and so, to avoid being put in this position, they might seek out a rabbi who was likely to be open-minded about their existing views.<sup>24</sup> Broader studies into other aspects of healthcare additionally note that although religious authorities are perceived as influential partners in public health strategies (as they can be a source of information and ethical guidance for devotees) their followers also frequently choose to act independently of religious guidance and in accordance with the outcome they are looking for.<sup>25</sup>

16. Other research, including into religious exemptions for school vaccination requirements and professional influenza vaccine requirements for healthcare providers, discusses indications that “‘religion’ often serves as [a] cover for anti-vaccine sentiments that have little to do with any organized faith’s official teachings”<sup>26</sup> and that some individuals deceitfully exploit religious exemptions and may even encourage others to pursue them simply because the law allows it, independent of sincere religious conviction.<sup>27</sup> Safety-based concerns and fears underpinning claims of religious exemption blur the distinction between religious and secular opposition to vaccines. Media coverage of school vaccine exemption disputes has additionally highlighted individuals who start

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<sup>24</sup> Ben Kasstan, “If a Rabbi Did Say ‘You Have to Vaccinate,’ We Wouldn’t: Unveiling the Secular Logics of Religious Exemption and Opposition to Vaccination,” *Social Science & Medicine* 280 (July 2021): 114052, <https://doi.org/10.1016/j.socscimed.2021.114052>.

<sup>25</sup> Lea Taragin-Zeller, “A Rabbi of One’s Own? Navigating Religious Authority and Ethical Freedom in Everyday Judaism,” *American Anthropologist* 123 (June 2021) Wiley: 833-45, <https://doi.org/10.1111/aman.13603>.

<sup>26</sup> Quote is from Kasstan (citation 24), extended source is to E.J. Sobro, “Vaccination: against my religion?” In *Bloomsbury Religion in North America*, edited by Bielo, J., Green, W.S., Pinn, A. London: Bloomsbury.

<sup>27</sup> Dorit Reiss, “Thou Shalt Not Take the Name of the Lord Thy God in Vain: Use and Abuse of Religious Exemptions from School Immunization Requirements,” 65 *Hastings L.J.* 1551 (2013-2014), [https://repository.uclawsf.edu/hastings\\_law\\_journal/vol65/iss6/5/](https://repository.uclawsf.edu/hastings_law_journal/vol65/iss6/5/); see also Jennifer A. Reich, “‘I Have to Write a Statement of Moral Conviction. Can Anyone Help?’: Parents’ Strategies for Managing Compulsory Vaccination Laws,” *Sociological Perspectives* 61, no. 2 (Jan. 30, 2018): 222–39, <https://doi.org/10.1177/0731121418755113>.

online advocacy organizations teaching people how to get religious exemptions, providing downloadable letter templates and detailed instructions for what to say in letters or interviews.<sup>28</sup>

17. Prior to 2021, much of the research into exemptions and religious objections to vaccination and exemptions focused on childhood vaccines and influenza vaccines. As governments implemented COVID-19 vaccine requirements, and as some afforded religious exemptions, recent studies and commentary have sought to understand the dynamics of COVID-19 religious objections specifically.<sup>29</sup> Established religious concerns related to aborted fetal cells may apply in the case of the Johnson & Johnson vaccine, which used historic fetal cell lines when developing and producing their vaccine, though such concerns are a degree removed where the mRNA vaccines are concerned; although Pfizer and Moderna do not use fetal cells for production or manufacturing, they were used early in development to test effectiveness.<sup>30</sup> In light of this, one scholar points out, “Many Christians objecting to COVID vaccines do so on scientific grounds, such as the experimental nature of the vaccines, and their alleged deleterious side-effects, or on cultural grounds such as the increasing power of governments or the duplicity of government officials and scientists. The theological grounds tend to be far less prominent, except for their postulated link to past abortions. Other issues can only be described as ephemeral, such as the claim that God will protect us from viruses, and that our bodies should not be modified by vaccines.”<sup>31</sup>

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<sup>28</sup> Dan Goldberg, “Push to broaden religious exemption gains momentum,” *Politico*, May 30, 2018, <https://www.politico.com/states/new-york/albany/story/2018/05/30/push-to-broaden-religious-exemption-gains-momentum-438629>; Mark Weiner, “NY Vaccine Debate: Protect Religious Beliefs of Students or Health of Classmates?,” *Syracuse*, June 13, 2018, [https://www.syracuse.com/politics/2018/06/ny\\_vaccine\\_debate\\_protect\\_religious\\_beliefs\\_of\\_students\\_or\\_health\\_of\\_classmates.html](https://www.syracuse.com/politics/2018/06/ny_vaccine_debate_protect_religious_beliefs_of_students_or_health_of_classmates.html).

<sup>29</sup> Andrew Flescher, “How Well Do Religious Exemptions Apply to Mandates for COVID-19 Vaccines?,” *Religions* 14, no. 5 (Apr. 24, 2023): 569, <https://doi.org/10.3390/rel14050569>.

<sup>30</sup> UCLA Health, “COVID-19 Vaccine: Addressing Concerns,” <https://www.uclahealth.org/treatment-options/covid-19-info/covid-19-vaccine-addressing-concerns>; Michigan Department of Health & Human Service, “COVID-19 Vaccines & Fetal Cells,” updated May 1, 2023, [https://www.michigan.gov/-/media/Project/Websites/coronavirus/Folder17/COVID-19\\_Vaccines\\_and\\_Fetal\\_Cells\\_031921.pdf](https://www.michigan.gov/-/media/Project/Websites/coronavirus/Folder17/COVID-19_Vaccines_and_Fetal_Cells_031921.pdf).

<sup>31</sup> D. Gareth Jones, “Religious Concerns About COVID-19 Vaccines: From Abortion to Religious Freedom,” *Journal of Religion and Health* 61, no. 3 (Apr. 11, 2022): 2233–52, <https://doi.org/10.1007/s10943-022-01557-x>.

18. As with school vaccines, however, an online ecosystem offering guidance, templates, and arguments for the concerned or fearful to use to frame their requests for a religious exemption emerged specific to COVID-19 vaccination. Facebook groups formed to connect around how best to secure one.<sup>32</sup> Telegram, a low-moderation social media platform popular with anti-vaccine activists, became a go-to source to find communities offering guidance, templates, and tricks. Media coverage has documented the world of for-profit and on-demand religious vaccine exemptions.<sup>33</sup> Social media had long been a source of information and community for the vaccine hesitant, and a gathering place for anti-vaccine activists to connect with those seeking information, and it – not churches, synagogues, mosques, or other religious institutions – became the central location for information exchange on this topic as well.<sup>34</sup>

#### ANTI-VACCINE CONSPIRACY THEORIES IN THE INFORMATION AGE

19. The prevalence and spread of vaccine resistance and hesitancy narratives is shaped by the information and communication environment. In the early 2000s, for example, much of the public conversation about vaccines focused on one key paper, published in *The Lancet* in 1998 by gastroenterologist Andrew Wakefield, which suggested that the MMR (measles mumps rubella) vaccine caused childhood autism.<sup>35</sup> The paper received significant broadcast media coverage and generated significant concern about the measles vaccine. By 2004, however, the editor of the *Lancet*

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<sup>32</sup> Kiera Butler, “Inside the Private Facebook Groups Where Anti-vaxxers Plot to Get Religious Exemptions,” *Mother Jones*, September 24, 2021, <https://www.motherjones.com/politics/2021/09/inside-the-private-facebook-groups-where-anti-vaxxers-plot-to-get-religious-exemptions/>.

<sup>33</sup> Mary Harris, “The For-Profit World of Religious Vaccine Exemptions,” *Slate Magazine*, September 20, 2021, <https://slate.com/human-interest/2021/09/religious-covid-vaccine-exemption-letters-for-sale-profit.html>; Tess Owen, “Proud Boy Rabbi Promises Religious Exemptions for COVID Vaccine,” *Vice*, October 8, 2021, <https://www.vice.com/en/article/z3xje9/proud-boy-rabbi-promises-religious-exemptions-for-covid-vaccine>.

<sup>34</sup> Dorit Rubinstein Reiss, “Religious Exemptions to Vaccines and the Anti-Vax Movement,” *Bill of Health - Petrie-Flom Center at Harvard Law School* (blog), July 16, 2021, <https://blog.petrieflom.law.harvard.edu/2021/07/16/religious-exemptions-to-vaccines-and-the-anti-vax-movement>.

<sup>35</sup> Children’s Hospital of Philadelphia, “Vaccines and Autism,” last reviewed by Lori Handy, MD, MSCE, on February 5, 2024, <https://www.chop.edu/centers-programs/vaccine-education-center/vaccines-and-other-conditions/vaccines-autism>.

suggested it should not have been published.<sup>36</sup> In 2010 the paper was formally retracted by the journal and, following an investigation by the U.K. General Medicine Council, Wakefield's medical license was revoked.<sup>37</sup> Coverage of the anti-vaccine movement's claims about a purported link between vaccines and autism subsequently declined significantly on mainstream broadcast and print media.<sup>38</sup>

20. Around this time, social media companies were becoming increasingly popular. As coverage of misleading claims about vaccines declined in broadcast media and journalism coverage, some of the most prominent anti-vaccine activist organizations joined Facebook, which enabled users to post publicly and grow audiences directly. The National Vaccine Information Center, for example, an early anti-vaccine activist organization dedicated to, among other things, advocacy opposing school vaccination requirements, created a Facebook page in 2009.<sup>39</sup>

21. Although the narrative themes themselves are largely unchanged since the late-1800s, the mechanics of social media provided unique opportunities for the anti-vaccine movement to recruit new adherents and reach new audiences, including by running ads, forming groups, and establishing dedicated channels, accounts, and pages. The expansion of the digital information ecosystem, which includes self-published blogs and websites, as well as the rise of large social media platforms, transformed the conversation around vaccines.<sup>40</sup>

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<sup>36</sup> Richard Horton, "A statement by the editors of The Lancet," *The Lancet*, Mar. 6, 2004, <https://www.thelancet.com/journals/lancet/article/PIIS0140673604156997/fulltext>.

<sup>37</sup> General Medical Council, Preliminary Proceedings Committee and Professional Conduct Committee (Procedure), "Dr. Andrew Jeremy Wakefield: Determination of Serious Professional Misconduct (SPM) and Sanction" (May 24, 2010), [http://www.circare.org/autism/Wakefield\\_SPM\\_and\\_SANCTION\\_32595267.pdf](http://www.circare.org/autism/Wakefield_SPM_and_SANCTION_32595267.pdf).

<sup>38</sup> Graham Dixon and Cristopher Clarke, "The Effect of Falsely Balanced Reporting of the Autism-vaccine Controversy on Vaccine Safety Perceptions and Behavioral Intentions," *Health Education Research* 28, no. 2 (Nov.27, 2012): 352–59, <https://doi.org/10.1093/her/cys110>.

<sup>39</sup> Renée DiResta, "On Virality: How the anti-vaccine movement influences public discourse through online activism," *Governing Health Futures*, July 15, 2020, [https://www.governinghealthfutures2030.org/wp-content/uploads/2021/10/072020\\_Renee-DiResta\\_On-virality-How-the-antivaccine-movement-influences-public-discourse-through-online-activism.pdf](https://www.governinghealthfutures2030.org/wp-content/uploads/2021/10/072020_Renee-DiResta_On-virality-How-the-antivaccine-movement-influences-public-discourse-through-online-activism.pdf).

<sup>40</sup> Anna Kata, "A Postmodern Pandora's Box: Anti-vaccination Misinformation on the Internet," *Vaccine* 28, no. 7 (Feb. 17, 2010): 1709-16, <https://doi.org/10.1016/j.vaccine.2009.12.022>.

22. Changes in how people receive science and health information have inadvertently bolstered vaccination hesitancy. With local and regional newspapers disappearing, more people rely on internet sites of varying quality and intent. While media coverage once offered a largely unified view of health facts, the internet fragments information.<sup>41</sup> It also enables borderless and persistent communities of people who share information amongst themselves, often oriented around a common topic of interest, leading to the formation of strong trusted bonds.<sup>42</sup> Beyond being personalized and algorithmically mediated, social media is also highly participatory; users can post, share, and amplify individual pieces of content.

23. The fragmentation in the information environment is compounded by shifts in who, or what, people trust.<sup>43</sup> A widely-cited 2012 paper by Dr. Anna Kata described, “[A] new postmodern paradigm of healthcare has emerged, where power has shifted from doctors to patients, the legitimacy of science is questioned, and expertise is redefined. Together this has created an environment where anti-vaccine activists are able to effectively spread their messages. Evidence shows that individuals turn to the Internet for vaccination advice and suggests such sources can impact vaccination decisions — therefore it is likely that anti-vaccine websites and content can influence whether people vaccinate themselves or their children.”<sup>44</sup>

24. People form opinions through repeated contacts and engagement with trusted sources. Simply encountering a piece of anti-vaccine propaganda doesn’t change a person’s beliefs. Instead,

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<sup>41</sup> Renée DiResta and Claire Wardle, “Online Misinformation About Vaccines,” background paper within The Sabin-Aspen Vaccine Science & Policy Group, “Meeting The Challenge of Vaccination Hesitancy” (Apr. 2022), 137-170, [https://www.sabin.org/app/uploads/2022/04/Sabin-Aspen-report-2020\\_Meeting-the-Challenge-of-Vaccine-Hesitancy.pdf](https://www.sabin.org/app/uploads/2022/04/Sabin-Aspen-report-2020_Meeting-the-Challenge-of-Vaccine-Hesitancy.pdf).

<sup>42</sup> Anna Kata, “A Postmodern Pandora’s Box: Anti-vaccination Misinformation on the Internet,” *Vaccine* 28, no. 7 (Feb. 17, 2010): 1709-16, <https://doi.org/10.1016/j.vaccine.2009.12.022>.

<sup>43</sup> Ed Pertwee, Clarissa Simas, and Heidi J. Larson, “An Epidemic of Uncertainty: Rumors, Conspiracy Theories and Vaccine Hesitancy,” *Nature Medicine* 28, no. 3 (Mar. 2022): 456–59, <https://doi.org/10.1038/s41591-022-01728-z>.

<sup>44</sup> Anna Kata, “Anti-vaccine Activists, Web 2.0, and the Postmodern Paradigm – an Overview of Tactics and Tropes Used Online by the Anti-vaccination Movement,” *Vaccine* 30, no. 25 (May 28, 2012): 3778–89, <https://doi.org/10.1016/j.vaccine.2011.11.112>.



people are persuaded over time through interactions with peers – on social media, as well as in private group chats – who reinforce the legitimacy of a viewpoint. This social reinforcement lends credibility to the notion that vaccines may be harmful.<sup>45</sup> Online anti-vaccine and vaccine hesitant communities additionally often share highly personal “lived experience” stories, which may be far more persuasive than a message from an authority figure, or a collection of official statistics.<sup>46</sup>

25. The anti-vaccine movement is effective in promoting its online content. Although many mainstream social media platforms now attempt to minimize it by instead surfacing reputable sources in response to vaccine queries, for many years individuals seeking information about vaccines online were likely to encounter misleading information about vaccine safety before finding reliable sources.<sup>47</sup> Anti-vaccine activists and influencers prioritize cross-promoting their peers to ensure that individuals who follow one influencer or join one group are made aware of others. They leverage blogs and micro-media properties, produce documentaries, websites, and write books, and promote these outputs on social media as well through email lists and encouragements to their followers to forward and share.<sup>48</sup>

## THE QANON MOVEMENT

26. In the course of my research into online narratives and vaccine-related conspiracy theories, I have also studied the QAnon conspiracy theory. QAnon is “a cult, a popular movement, a puzzle, a community, a way to fight back against evil, a new religion, a wedge between countless loved

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<sup>45</sup> Damon Centola, “The Complex Contagion of Doubt in the Anti-Vaccine Movement,” background paper within The Sabin-Aspen Vaccine Science & Policy Group, “Meeting The Challenge of Vaccination Hesitancy” (Apr. 2022), 126-136, [https://www.sabin.org/app/uploads/2022/04/Sabin-Aspen-report-2020\\_Meeting-the-Challenge-of-Vaccine-Hesitancy.pdf](https://www.sabin.org/app/uploads/2022/04/Sabin-Aspen-report-2020_Meeting-the-Challenge-of-Vaccine-Hesitancy.pdf).

<sup>46</sup> Emily K. Brunson, “The Impact of Social Networks on Parents’ Vaccination Decisions,” *PEDIATRICS* 131, no. 5 (May 2013): e1397–1404, <https://doi.org/10.1542/peds.2012-2452>.

<sup>47</sup> Damon Centola, “Influential Networks,” *Nature Human Behaviour* 3, no. 7 (May 20, 2019): 664–65, <https://doi.org/10.1038/s41562-019-0607-5>; Sabin-Aspen Vaccine Science & Policy Group Report, “Meeting The Challenge of Vaccination Hesitancy” (Apr. 2022), 22, [https://www.sabin.org/app/uploads/2022/04/Sabin-Aspen-report-2020\\_Meeting-the-Challenge-of-Vaccine-Hesitancy.pdf](https://www.sabin.org/app/uploads/2022/04/Sabin-Aspen-report-2020_Meeting-the-Challenge-of-Vaccine-Hesitancy.pdf).

<sup>48</sup> Rebekah Getman, Mohammad Helmi, Hal Roberts, Alfa Yansane, David Cutler, and Brittany Seymour, “Vaccine Hesitancy and Online Information: The Influence of Digital Networks,” *Health Education & Behavior* 45, no. 4 (Dec. 21, 2017): 599–606, <https://doi.org/10.1177/1090198117739673>.



ones, a domestic terrorism threat, and more than anything, a conspiracy theory of everything.”<sup>49</sup> The seed content for QAnon, cryptic posts known as “Q drops” purportedly written by a government insider with Q-level clearance, began to appear on the internet message board 4chan beginning in 2017. The narrative contours are variable and constantly evolving, but the central idea of the conspiracy theory alleges that “a group of Satan-worshiping elites who run a child sex ring are trying to control our politics and media” – and that, while he was in office, former President Donald Trump was fighting back.<sup>50</sup>

27. QAnon is a highly participatory way of making sense of the world. The central figure in the name, an anonymous individual or group that signed messages as Q, was purportedly a high-ranking government insider who released cryptic messages for followers to decode. This decoding process was highly collaborative; online groups formed to solve the riddles and derive truths from the texts. They became highly involved in working to connect the dots and ‘awaken’ their friends, families, and colleagues to the revealed truth of the world.<sup>51</sup> This collective knowledge-making activity, described by some analysts as being similar to participating in an alternate-reality game, is one reason why QAnon has remained so cohesive over time.<sup>52</sup>

28. Similarly to the anti-vaccine movement, the QAnon movement on social media initially grew in large part through algorithmic recommendations. My own initial exposure to the QAnon community on Facebook was in early 2018, when Facebook began to recommend Groups focused on the then-nascent theory to a research account that I maintained specifically to study anti-vaccine Facebook Groups and Pages. The research account had never proactively indicated interest in QAnon, nor searched for terms related to it; the content was simply promoted to it.

29. For some time after it emerged, QAnon groups and content on Facebook were recommended to followers of other conspiracy theories, including chemtrails, flat Earth, Pizzagate,

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<sup>49</sup> Mike Rothschild, “The Storm is Upon Us: How QAnon Became a Movement, Cult, and Conspiracy Theory of Everything,” (Melville House, 2021), p xiii.

<sup>50</sup> Kevin Roose, “What Is QAnon, the Viral Pro-Trump Conspiracy Theory?” *The New York Times*, Sept. 3, 2021, <https://www.nytimes.com/article/what-is-qanon.html>.

<sup>51</sup> Alice E. Marwick and William Clyde Partin, “Constructing Alternative Facts: Populist Expertise and the QAnon Conspiracy,” *New Media & Society*, May 1, 2022, 2535-2555, <https://doi.org/10.1177/14614448221090201>.

<sup>52</sup> Clive Thompson, “QAnon Is Like a Game—a Most Dangerous Game,” *WIRED*, Sept. 22, 2020, <https://www.wired.com/story/qanon-most-dangerous-multiplatform-game/>.

9/11 “truth”, and others.<sup>53</sup> Many of these conspiracy theories are oriented around a high degree of distrust in government or a belief that the government is actively lying to the public. The result of this algorithmic promotion was an omniconspiracy theory that incorporated villains, tropes, and worldviews from the others, leading to a highly activist community dynamic akin to a “big tent welcoming to all those who question authority, distrust the media, and do their own research.”<sup>54</sup> QAnon has attracted adherents from many other conspiratorial communities, absorbing their concerns and theories into its lore. It is often described as cult-like, because many of its members come to actively reject “outside” information as untrustworthy, and may cease to engage with family members and friends who are not believers.<sup>55</sup>

30. On October 6, 2020, out of increased concern about violence tied to militarized social movements, Facebook banned QAnon content on the platform under its Dangerous Individuals and Organizations policy.<sup>56</sup> It was not the first to do so; Reddit, an early central gathering place where adherents discussed Q-drops, had banned QAnon in September of 2018.<sup>57</sup> Twitter acted against the conspiracy community presence on its platform in January 2021, banning 70,000 QAnon accounts and limiting the recommendation of 150,000 more following the January 6 attack on the United States Capitol.<sup>58</sup> However, many of these accounts would be restored beginning in December 2022 after the platform changed hands following its purchase by Elon Musk.<sup>59</sup>

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<sup>53</sup> Brandy Zadrozny, “‘Carol’s Journey’: What Facebook knew about how it radicalized users,” *NBC News*, Oct. 22, 2021, <https://www.nbcnews.com/tech/tech-news/facebook-knew-radicalized-users-rcna3581>.

<sup>54</sup> Mike Rothschild, “The Storm is Upon Us: How QAnon Became a Movement, Cult, and Conspiracy Theory of Everything,” (Melville House, 2021), p xvi.

<sup>55</sup> Renée DiResta, “From QAnon to Pizzagate, When Online Conspiracies Form Cults,” *WIRED*, Nov. 13, 2018, <https://www.wired.com/story/online-conspiracy-groups-qanon-cults/>.

<sup>56</sup> Meta, “An Update to How We Address Movements and Organizations Tied to Violence,” Aug. 19, 2020, updated on Oct. 17, 2022, <https://about.fb.com/news/2020/08/addressing-movements-and-organizations-tied-to-violence/>.

<sup>57</sup> Brandy Zadrozny and Ben Collins, “Reddit Bans Qanon subreddits after months of violent threats,” *NBC News*, Sept. 12, 2018, <https://www.nbcnews.com/tech/tech-news/reddit-bans-qanon-subreddits-after-months-violent-threats-n909061>.

<sup>58</sup> Ben Collins and Brandy Zadrozny, “Twitter Bans 7000 QAnon accounts, limits 150,000 others as part of broad crackdown,” *NBC News*, July 21, 2020, <https://www.nbcnews.com/tech/tech-news/twitter-bans-7-000-qanon-accounts-limits-150-000-others-n1234541>.

<sup>59</sup> Stuart A. Thompson, “Musk Lifted Bans for Thousands on Twitter. Here’s What They’re Tweeting,” *The New York Times*, Dec. 22, 2022, <https://www.nytimes.com/2022/12/22/technology/musk-twitter-bans.html>.

31. Although QAnon communities were de-platformed from major social media companies, they established themselves and thrived on message boards and chat services, as well as on low-moderation platforms such as Telegram, Truth Social, Parler, and Gab. Telegram in particular became a central hub.<sup>60</sup>

32. Telegram is a social media platform that offers broadcast channels, comment capability on broadcast posts, and also encrypted chat. Telegram emerged as a prime broadcast tool for QAnon influencers who'd had large followings on other social media platforms. A July 2021 analysis noted the presence of "more than 3,500 Telegram groups and channels that refer directly to QAnon and a further 10,000+ groups and channels linked to these."<sup>61</sup> Some of these channels have hundreds of thousands of followers; while influencers themselves may primarily broadcast, participation takes place in the comments and in amplification and shares by rank-and-file followers.

#### **ANTI-VACCINE MOVEMENT AND THE COVID-19 VACCINES**

33. The anti-vaccine movement was quick to react to news of the burgeoning outbreak of COVID-19 in China. As early as January 2020, anti-vaccine activists perceived the growing crisis as an opportunity to undermine confidence in vaccination writ large.<sup>62</sup> A vaccine would emerge, they assumed, and they could take advantage of its "rushed" nature to frame vaccines as dangerous.<sup>63</sup>

34. Pre-vaccine pandemic mitigation efforts included lockdowns, masks, and school and business closures. This led to significant anger from some communities, inspiring early anti-mask and anti-lockdown protests. While anger was also prevalent outside conspiratorial communities, QAnon adherents were often highly visible participants in these early efforts; many did not believe that the pandemic or the disease was real, some acknowledged that it was real but insisted that it was planned by government authorities or other powerful institutions (a "plandemic"), and some processed the lockdown measures as the arrival of coordinated global tyranny. Early conspiracy theories about

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<sup>60</sup> Jordan Wildon and Marc-André Argentino, "QAnon is not Dead: New Research into Telegram Shows the Movement is Alive and Well," *Global Network on Extremism & Technology* (blog), July 28, 2021, <https://gnet-research.org/2021/07/28/qanon-is-not-dead-new-research-into-telegram-shows-the-movement-is-alive-and-well/>.

<sup>61</sup> *Ibid.*

<sup>62</sup> Renée DiResta, "Anti-vaxxers Think This Is Their Moment," *The Atlantic*, Dec. 20, 2020, <https://www.theatlantic.com/ideas/archive/2020/12/campaign-against-vaccines-already-under-way/617443/>.

<sup>63</sup> Tara Haelle, "This Is the Moment the Anti-Vaccine Movement Has Been Waiting For," *The New York Times*, Aug. 31, 2021, <https://www.nytimes.com/2021/08/31/opinion/anti-vaccine-movement.html>.

COVID-19 within QAnon communities “connected the dots” to other QAnon lore; masks on children, for example, might be something that the purported pedophilic-elite network was using to conceal trafficking.<sup>64</sup>

35. As vaccinations rolled out in the U.S. in late 2020, longstanding anti-vaccine activists became increasingly focused on undermining their uptake. Once again, the narratives largely fit within the same well-established themes, with slight inflections for the specifics of the pandemic.<sup>65</sup> For example, safety concerns about the COVID-19 vaccine took the form of misuse and misreading of statistics. Efficacy debates roiled with each emerging variant and booster. Liberty narratives focused not only on vaccine passports and mandates, but on masking and lockdown measures. “‘They’ are lying to you”, or “‘They’ are out to harm you” became all-encompassing conspiracy theories applied to nearly every facet of the vaccine rollout.<sup>66</sup> And, because the pandemic was a novel pathogen, and experts did get things wrong, there was a systematic effort to undermine even the idea of expertise.<sup>67</sup>

36. QAnon groups were also concerned about the vaccine, particularly following the departure of President Trump from office in January 2021. Narratives included that the vaccines were bioweapons, pushed by a cabal of corrupt government officials and pharmaceutical companies; the vaccines were “gene therapy” and would alter DNA; people who received them would die or be seriously injured; the vaccine was the “Mark of the Beast” in the Book of Revelation.<sup>68</sup> And all of this, narratives repeatedly emphasized, was not accidental – the purported goal was depopulation, and social control.<sup>69</sup>

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<sup>64</sup> Marianna Spring and Mike Wendling, “How Covid-19 Myths Are Merging With the QAnon Conspiracy Theory,” *BBC*, Sept. 2, 2020, <https://www.bbc.com/news/blogs-trending-53997203>.

<sup>65</sup> Tara C. Smith and Dorit Rubinstein Reiss, “Digging the Rabbit Hole, COVID-19 Edition: Anti-vaccine Themes and the Discourse Around COVID-19,” *Microbes and Infection* 22, no. 10 (Nov. 2020): 608–10, <https://doi.org/10.1016/j.micinf.2020.11.001>.

<sup>66</sup> The Virality Project, “Memes, Magnets, and Microchips: Narrative dynamics around COVID\_19 vaccines,” Feb. 2022, Section 3, <https://doi.org/10.25740/mx395xj8490>.

<sup>67</sup> Renée DiResta, “Invisible Rulers: The People Who Turn Lies Into Reality,” (Public Affairs, 2024), Chapter 7.

<sup>68</sup> The Virality Project, “Memes, Magnets, and Microchips: Narrative dynamics around COVID\_19 vaccines,” Feb. 2022, 58-59, <https://doi.org/10.25740/mx395xj8490>.

<sup>69</sup> Craig Timberg and Elizabeth Dwoskin, “With Trump gone, QAnon groups focus fury on attacking coronavirus vaccines,” *Washington Post*, Mar. 11, 2021, <https://www.washingtonpost.com/technology/2021/03/11/with-trump-gone-qanon-groups-focus-fury-attacking-covid-vaccines/>.

37. The World Health Organization used the term “infodemic” to refer to the chaotic information environment during COVID-19.<sup>70</sup> It was very difficult to know what was true about the novel disease and the new vaccines, and people turned to social media to try to make sense of the world. Unverified stories of side effects were perhaps the most prominent theme; they went viral frequently as the combination of uncertainty and impact made the topic highly engaging.<sup>71</sup> In many cases, stories about distribution protocols, policies, and side effects related to the vaccine were spun into conspiracy theories attributing specific malintent to shadowy figures in government or within pharmaceutical companies; these proliferated on social media during the pandemic and generated significant engagement.<sup>72</sup>

38. Much of the unreliable information and rumors about COVID-19 vaccines on social media were significantly boosted via amplification from influencers. Some of these were the long-time anti-vaccine activists such as Robert F. Kennedy Jr. and his Children’s Health Defense organization.<sup>73</sup> Others were primarily known from their content in the wellness, politics, and parenting spheres, though they became significant spreaders of vaccine claims as the vaccine rollout occurred.<sup>74</sup> While some influencers were ideologically motivated, many profited by selling anti-vaccine books and products, monetizing websites with ads, and creating affiliate links to anti-vaccine groups; some even founded a medical freedom-focused super PAC.<sup>75</sup> On social media, fear, uncertainty, sensationalism,

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<sup>70</sup> World Health Organization, “Let’s Flatten The Infodemic Curve,” <https://www.who.int/news-room/spotlight/let-s-flatten-the-infodemic-curve>.

<sup>71</sup> Cindy Sing Bik Ngai, Rita Gill Singh, and Le Yao, “Impact of COVID-19 Vaccine Misinformation on Social Media Virality: Content Analysis of Message Themes and Writing Strategies,” *Journal of Medical Internet Research* 24, no. 7 (July 6, 2022): e37806, <https://doi.org/10.2196/37806>.

<sup>72</sup> The Virality Project, “Memes, Magnets, and Microchips: Narrative dynamics around COVID\_19 vaccines,” Feb. 2022, 31-40, <https://doi.org/10.25740/mx395xj8490>.

<sup>73</sup> Michelle R. Smith, “How a Kennedy Built an Anti-vaccine Juggernaut Amid COVID-19,” *AP News*, Dec. 15, 2021, <https://apnews.com/article/how-rfk-jr-built-anti-vaccine-juggernaut-amid-covid-4997be1bcf591fe8b7f1f90d16c9321e>.

<sup>74</sup> Ashley Feters Maloy and Gerrit De Vynck, “How wellness influencers are fueling the anti-vaccine movement,” *Washington Post*, Sept. 12, 2021, <https://www.washingtonpost.com/technology/2021/09/12/wellness-influencers-vaccine-misinformation/>.

<sup>75</sup> Richard M. Carpiano, Timothy Callaghan, Renée DiResta, Noel T. Brewer, Chelsea Clinton, Alison P. Galvani, et al., “Confronting the Evolution and Expansion of Anti-vaccine Activism in the USA in the COVID-19 Era,” *The Lancet* 401, no. 10380 (Mar. 1, 2023): 967–70, [https://doi.org/10.1016/s0140-6736\(23\)00136-8](https://doi.org/10.1016/s0140-6736(23)00136-8).

and outrage are often used to attract attention and monetize followings, and the topic of COVID-19 and vaccines afforded significant opportunity to capture attention.<sup>76</sup>

39. Vaccine-skeptical and anti-vaccine physicians have long been part of the anti-vaccine thought influencer sphere, as described by epidemiologist Tara Smith in 2017.<sup>77</sup> These figures became quite prominent in the COVID-19 vaccine discourse, because their medical credentials make them appear to be reliable figures.<sup>78</sup> Some have medical credentials in disciplines unrelated to the areas that they expressed strong opinions about, though the reader may be unaware or not look more deeply after seeing the word “Dr.” in the byline or comment. As with other influencers, many grew large followings; Dr. Robert Malone and Dr. Peter McCullough became frequent guests on vaccine-skeptical, anti-vaccine, and highly conspiratorial podcasts.<sup>79</sup> Some of these doctor-influencers also similarly monetized those followings on social media and e-mail newsletter platforms such as Substack.<sup>80</sup> The content of these perceived experts was widely shared and received significant engagement on platforms such as Twitter/X.<sup>81</sup>

40. The Terms of Service on social media platforms govern what is acceptable to post, and therefore what is available for sharing. Since 2019, social media platforms have implemented policies to combat misinformation about vaccines on the grounds that false claims about vaccines can cause harm.<sup>82</sup> During COVID-19, platforms including Facebook, Twitter, and YouTube rapidly

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<sup>76</sup> Rachel E. Moran, Anna L. Swan, and Taylor Agajanian, “Vaccine Misinformation for Profit: Conspiratorial Wellness Influencers and the Monetization of Alternative Health,” *International Journal of Communication* 18 (2024), <https://ijoc.org/index.php/ijoc/article/view/21128/4494>.

<sup>77</sup> Tara C. Smith, “Vaccine Rejection and Hesitancy: A Review and Call to Action,” *Open Forum Infectious Diseases* 4, no. 3 (Jan. 2017), <https://doi.org/10.1093/ofid/ofx146>.

<sup>78</sup> Sahana Sule, Marisa C. DaCosta, Erin DeCou, Charlotte Gilson, Kate Wallace, and Sarah L. Goff, “Communication of COVID-19 Misinformation on Social Media by Physicians in the US,” *JAMA Network Open* 6, no. 8 (Aug. 15, 2023): e2328928, <https://doi.org/10.1001/jamanetworkopen.2023.28928>.

<sup>79</sup> The Virality Project, “Memes, Magnets, and Microchips: Narrative dynamics around COVID\_19 vaccines,” Feb. 2022, 79-82, <https://doi.org/10.25740/mx395xj8490>.

<sup>80</sup> Kristina Fiore, “Anti-Vax Newsletters Pull in \$2.5M on Substack,” *MedPage Today*, Feb. 1, 2022, <https://www.medpagetoday.com/special-reports/exclusives/96955>.

<sup>81</sup> Mallory J. Harris, Ryan Murtfeldt, Shufan Wang, Erin A. Mordecai, and Jevin D. West, “The Role and Influence of Perceived Experts in an Anti-vaccine Misinformation Community,” *medRxiv*, July 13, 2023, <https://doi.org/10.1101/2023.07.12.23292568>.

<sup>82</sup> Renée DiResta, “On Virality: How the anti-vaccine movement influences public discourse through online activism,” *Governing Health Futures*, July 15, 2020, [https://www.governinghealthfutures2030.org/wp-content/uploads/2021/10/072020\\_Renee-DiResta\\_On-virality-How-the-antivaccine-movement-influences-public-discourse-through-online-activism.pdf](https://www.governinghealthfutures2030.org/wp-content/uploads/2021/10/072020_Renee-DiResta_On-virality-How-the-antivaccine-movement-influences-public-discourse-through-online-activism.pdf).



adapted existing health misinformation policies in an attempt to ensure that the information environment they were responsible for did not amplify false and misleading information.<sup>83</sup> Platforms like Facebook, Twitter, and YouTube introduced measures to reduce the spread of COVID-19 vaccine misinformation that included taking down misinformation content, labeling misleading posts, reducing misleading post prevalence in user feeds, and providing users with authoritative information from health organizations like the World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC).<sup>84</sup>

41. Mainstream social media platforms aggressively moderated false and misleading COVID-19 vaccine-related content as well as rumors throughout 2020-2022. However, many smaller alt-platforms deliberately did not, out of a mix of free expression concerns, sympathy for the claims, and a generally hands-off moderation approach writ large. These included Telegram and Gab, YouTube competitor Rumble (a video channel platform), and the chan message boards. Influencers and others who wanted to create, post, and discuss vaccine-related claims or conspiracy theories banned on mainstream platforms largely established themselves there, particularly if they themselves were banned on mainstream social media platforms as well.<sup>85</sup>

#### **ROLOVICH'S COMMUNICATIONS ARE CONSISTENT WITH MANY COMMON ANTI-VACCINE CONSPIRACY THEORIES AND QANON**

42. As noted, I was provided hundreds of documents—primarily text messages, group chats, and Telegram posts dated from July 2020 to August 2023—which I understand were produced by Plaintiff Nicholas Rolovich in this litigation and reference the term “vaccine”, “vacc\*”, “vax\*”,

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<sup>83</sup> The Virality Project, “Memes, Magnets, and Microchips: Narrative dynamics around COVID\_19 vaccines,” Feb. 2022, Section 5, <https://doi.org/10.25740/mx395xj8490>.

<sup>84</sup> David A. Broniatowski, Joseph R. Simons, Jiayan Gu, Amelia M. Jamison, and Lorien C. Abrams, “The Efficacy of Facebook’s Vaccine Misinformation Policies and Architecture During the COVID-19 Pandemic,” *Science Advances* 9, no. 37 (Sept. 15, 2023), <https://doi.org/10.1126/sciadv.adh2132>.

<sup>85</sup> Mark Scott, “Fringe Social Media Networks Sidestep Online Content Rules,” *POLITICO*, Jan. 25, 2022, <https://www.politico.eu/article/fringe-social-media-telegram-extremism-far-right/>.

“abort\*”, “fetal”, and/or cells.<sup>86</sup> Based on my knowledge, research, experience studying the narratives and online dynamics of the anti-vaccine movement, I reviewed and analyzed the content of those documents to determine whether they could be viewed as falling within the following vaccine rejection and hesitancy themes, as discussed above: safety, efficacy, religiosity, liberty, distrust of industry, and conspiracy. As I evaluated the documents, I coded them according to which vaccine hesitancy themes were present and made notes about commentary originating from Mr. Rolovich.

43. In the large number of documents that I was given to analyze, there were many dozens of communications that fall under the previously-described well-established vaccine hesitancy themes.

44. Based on my review of the documents, many if not most of Mr. Rolovich’s communications appear to take issue with the vaccine based on deep-seated and sustained concerns about vaccine safety and efficacy. These concerns are regularly expressed, and frequently within a conspiratorial frame: for example, the vaccines are not just unsafe and going to lead to mass deaths of the vaccinated, they are *intentionally* unsafe and “they” (the government, Anthony Fauci, pharmaceutical companies) are covering it up.

45. Mr. Rolovich’s messages include multiple shares of video and blog content related to adverse reactions, including statistics related to vaccine injuries and concerns about blot clots or the rigor of vaccine trials. *See Attachment B* at ROLOVICH00005879, ROLOVICH00026901, ROLOVICH00027002-03, ROLOVICH00076421-22, ROLOVICH00027163, ROLOVICH00077005, ROLOVICH00011619, ROLOVICH00029874-77, ROLOVICH00000302. He shares media indicating a belief that taking the vaccine is not worth the risk, *id.* at ROLOVICH00005880 and ROLOVICH00031209-12, and that it will permanently alter DNA, *id.* at ROLOVICH00013341-42. He additionally frequently shares material by, or featuring, credentialed doctors who are COVID-19 vaccine skeptics. *See id.* at ROLOVICH00035487-89, ROLOVICH00029961-63, ROLOVICH00011621, ROLOVICH00011592, ROLOVICH00011624,

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<sup>86</sup> Some of the documents that I received from counsel, which I understand were produced by Mr. Rolovich, appear to be missing messages, images, or other content. I also understand that the completeness of Mr. Rolovich’s text message production is an issue that is currently being discussed by WSU’s counsel and Mr. Rolovich’s counsel. In the event that any additional documents are produced by Mr. Rolovich in connection with that discussion, I reserve the right to incorporate those materials into my analysis and amend this report.



ROLOVICH00032978-80, ROLOVICH00057294-96. He sends himself, and additionally forwards to friends, articles from blogs such as Children's Health Defense, or newsletters from vaccine skeptics.

46. In other communications, Mr. Rolovich and his associates make arguments about liberty or expresses concerns about mandates, including segregation of or discrimination against the unvaccinated, and discuss exemption concerns with others pursuing them. *See Attachment C* at ROLOVICH00024507, ROLOVICH00025013-14, ROLOVICH00013444-45, ROLOVICH00025776-77, ROLOVICH00075215, ROLOVICH00016334, ROLOVICH00004963, ROLOVICH00027278, ROLOVICH00033991-92, ROLOVICH00035888, ROLOVICH00013377-78, ROLOVICH00005833, ROLOVICH00000806. In an early exchange 28 April 2021, Mr. Rolovich seeks advice for what to do if the vaccine becomes mandatory at WSU. *Id.* at ROLOVICH00031053-54.

47. Additionally, many of the text message chains, group chats, and Telegram channels in the document set frequently incorporate both longstanding and QAnon-specific conspiracy theories as well as theories about vaccines. Mr. Rolovich and his associates in a persistent group chat repeatedly share material from Telegram channels and chan board posts produced by QAnon influencers or expressing QAnon themes. *See Attachment D* at ROLOVICH00059276-07, ROLOVICH00031063-133, ROLOVICH00059631-59, ROLOVICH00081201-46, ROLOVICH00031313-52, ROLOVICH00036247-73, ROLOVICH00036292-314, ROLOVICH00031396-471, ROLOVICH00036332-79, ROLOVICH00031594-646, ROLOVICH00036482-526, ROLOVICH00036568-92, ROLOVICH00031697-761, ROLOVICH00031827-76, ROLOVICH00012716-31, ROLOVICH00031924-71, ROLOVICH00012798-830, ROLOVICH00012860-88, ROLOVICH00032190-230, ROLOVICH00026016-18. One persistent group chat includes a significant number of posts about both supposed election fraud in 2020, some of which cite QAnon influencer (indeed, theorized to *be* Q himself) Ron Watkins, as well as vaccine safety concerns.<sup>87</sup> *Id.* at ROLOVICH00036247-73, ROLOVICH00051440, ROLOVICH00059276-97, ROLOVICH00031063-133, ROLOVICH00059631-59, ROLOVICH00059686-702,

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<sup>87</sup> David D. Kirkpatrick, "Who Is Behind QAnon? Linguistic Detectives Find Fingerprints," *The New York Times*, Feb. 29, 2022, <https://www.nytimes.com/2022/02/19/technology/qanon-messages-authors.html>.

ROLOVICH00031396-471, ROLOVICH00036332-79, ROLOVICH00031827-76, ROLOVICH00031924-71, ROLOVICH00032190-230, ROLOVICH00012956-75. Based on my knowledge and experience researching online narratives and vaccine-related conspiracy theories, including the QAnon conspiracy theory, references to QAnon rhetoric (such as “WWG1WGA” and “The Great Awakening”) within the chats, and the list of Telegram channels Mr. Rolovich followed (several of which have QAnon in the name), indicates deep familiarity with QAnon. While the specifics of Mr. Rolovich’s opinions about electoral legitimacy, pedophilic cabals, one-world government, and other topics that appear within the messages are out of scope for this analysis, these recurring themes suggest sustained engagement with QAnon groups, influencers, and channels, including Qtah, We the Media, Kanekoa the Great, Praying Medic, Q Qanon, Gen Flynn, Code Monkey, Sidney Powell, Lin Wood. *See also id.* at ROLOVICH00031313-52.

48. Given this alignment, it is unsurprising to see that many of Mr. Rolovich’s conversations about vaccine safety, efficacy, or the intent of the manufacturers are expressed within the framework of longstanding conspiratorial vaccine tropes or QAnon concerns. In December 2020, long prior to the release of any vaccine, Mr. Rolovich forwarded emails speculating about whether George Soros and Bill Gates had patents on COVID-19 cures to receptive family and friends. *See Attachment E* at ROLOVICH00011866-67, ROLOVICH00034020. Allegations of deliberate malice can be found throughout the vaccine-related messages between Rolovich and contacts, illustrating the way in which hesitancy concerns can mutate into conspiracy theories. *See id.* at ROLOVICH00051440, ROLOVICH00005884-05, ROLOVICH00011617, ROLOVICH00036247-73, ROLOVICH00012860-88, ROLOVICH00012920-37, ROLOVICH00026372-73, ROLOVICH00016399-400. For example, there is talk of a “criminal conspiracy of coronavirus” (*id.* at ROLOVICH00010639), and a need to hang those responsible (*id.* at ROLOVICH00012924-25); COVID itself is “fake” or a “plandemic” (*id.* at ROLOVICH00013135-36), but is also part of a nefarious plot to ensure “depopulation by any means” (*id.* at ROLOVICH00012925), and a “trojan horse for a global takeover” (*id.* at ROLOVICH00012703). The articles shared and liked in these group chats attribute circumstances to shadowy nefarious actors repeatedly: “They” are deliberately hiding cures like ivermectin (*id.* at ROLOVICH00012921), or “destroying women, poisoning breast

milk, murdering babies, and hiding the truth” (*id.* at ROLOVICH00013236). Content indicating a concern that pharmaceutical companies are profit-driven also goes one step further, implying that the companies are part of a deliberate, malevolent effort to harm and that “they killed people for vaccine profits” (*see id.* at ROLOVICH00005878), or that former Pfizer employees have confirmed there is “poison in [the] vaccine” (*see id.* at ROLOVICH00012860-62) and the company is hiding the numbers of those who died during vaccine trials (*id.* at ROLOVICH00013526).

49. Liberty concerns, too, extend beyond philosophical opposition to mandates and veer into the conspiratorial. For example, on July 20, 2021, Rolovich shares a post noting that “In the US, the Supreme Court has ruled that vaccinated people worldwide are products, patented goods, according to U.S. law, no longer human....The quality of a natural person and all related rights are lost.” *Id.* at ROLOVICH00031267.

50. In the documents that I reviewed, Mr. Rolovich does not appear to clearly articulate any specifically religious arguments in his objections to vaccination. Based on the documents that I reviewed, this remains true even as Mr. Rolovich begins to communicate to his associates his concerns that he will be fired for refusing vaccination and after he applied for a religious exemption. *See Attachment F* at ROLOVICH00031594-646.

51. Several text messages from group chats involving Mr. Rolovich and former WSU football colleagues David Fox and Brian Stutzmann, as well as text messages with Safiya Richardson, involved references to religion, God, prayer, and faith, suggesting that communicating about faith or faith-based concerns would not have been anomalous or uncomfortable in those environments. *See id.* at ROLOVICH00034916, ROLOVICH00035844-46, ROLOVICH00034967-68, ROLOVICH00034994, ROLOVICH0002559-93. Nonetheless, in the conversations in which religious discourse appears, Mr. Rolovich does not mention religious exemptions or express religiously-rooted vaccine hesitancy beliefs. Rather, he reverts to expressing secular concerns about *vaccine safety*. *Id.* at ROLOVICH00031594-646, ROLOVICH00031697-761, ROLOVICH00031063-133, ROLOVICH00033117-23. For example, in a message from July 29, 2021, Mr. Fox is disparaging an article entitled, “Stop using religion to fight COVID-19 vaccine. Taking it is the Christian thing to do”, saying, “you knew they’d eventually come for the religious exemptions”, and posting a chan board

screenshot warning that “the Chinese doctor wants all of the White Christians to take the vax of death”. *Id.* at ROLOVICH0031698-700. Rolovich does not comment on the religious exemption; rather, he later shares some memes and an interview from Steve Bannon’s War Room interview featuring Dr. Robert Malone in which they are alleging that the virus has caused the vaccine to be more dangerous. *Id.* at ROLOVICH00031730. On July 15, 2021, Mr. Fox shares content with Mr. Rolovich and Mr. Stutzman related to vaccine ingredients, including one slide (among a half-dozen or so) which mentions human fetal cells. *Id.* at ROLOVICH00031066-68. Rolovich does not reference it. Instead, a bit further down the thread, he responds with a URL for “centerformedicalfreedom.com”. *Id.* at ROLOVICH00031113. Based on my review of the documents, it does not appear that Mr. Rolovich ever directly identified concerns about fetal cells as the basis of his objection to the vaccine, which was the most common religious concern for Catholics and one of the objections that Mr. Rolovich referenced in his Second Amended Complaint.

52. There are additionally several text messages between Mr. Rolovich and Father Paul, a Catholic priest at the St. Thomas More Student Center in Pullman, Washington, who served as chaplain to the WSU football team, as well as Bishop Tom Daly. These messages do not contain any articulation by Mr. Rolovich of religious beliefs specific to vaccination. On July 25, 2021, Mr. Rolovich briefly asks Bishop Daly if he supports the vaccine; the Bishop affirms that he does “with reservations”. *See id.* at ROLOVICH00033208. In another message, from earlier that day, Mr. Rolovich texts Safiya Richardson to note that he “spoke with a priest” who “encouraged [him] to get it”. *See id.* at ROLOVICH000033117. (Here, again, Ms. Richardson expresses sentiments about religion and vaccines, and Mr. Rolovich turns the conversation to secular content about vaccine safety.) Father Paul connects with Mr. Rolovich several times to inquire about his decision and to offer him support. By August, Mr. Rolovich appears to pursue a religious exemption, sending himself an email containing vaccine religious exemption documents from Gab News (a reference to the alt-right social media platform). *See id.* at ROLOVICH00000544. However, based on the documents that I reviewed, discussions of specific spiritual concerns about aborted fetal cells or vaccination appear to be absent from chats with friends or religious leaders in the messages. On August 20, 2021 he receives a religious exemption letter from Bishop Daly. *See id.* at ROLOVICH00001398-99.

53. Based on the above, it is my opinion that Mr. Rolovich indeed harbored significant reservations about being vaccinated for COVID-19, but the concerns he expressed in the private messages that I observed between him and his close associates throughout this period fall into the realm of safety concerns and conspiracy theories, rather than religious objections to vaccination.